AUSTRALIAN ENTOMOLOGICAL SOCIETY

NEWS BULLETIN

Volume 7, Part 4, November 1971

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AUSTRALIAN ENTOMOLOGICAL SOCIETY

NEWS BULLETIN, VOLUME 7, PART 4, NOVEMBER 1971

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Dr. E.M. Exley, Department of Entomology,
University of Queensland, St. Lucia, Queensland, 4067.

Royal Zoological Society of New South Wales:
Dr. C.N. Smithers, Australian Museum, College
Street, Sydney, N.S.W. 2000.

Entomological Society of Victoria:
Mr. C. McCubbin, 6 Manniche Avenue, Box Hill North,
Victoria, 3129.

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Botany, The University of Sydney, Sydney,
N.S.W. 2006.

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MATERIAL IN THIS BULLETIN MUST NOT BE REFERRED TO NOR REPRODUCED WITHOUT PERMISSION OF THE AUTHOR OF THE MATERIAL

Articles, Notes, Letters to the Editor and other material for the News Bulletin should be sent to the News Bulletin Editor, or to your Regional Councillor.

EDITOR'S NOTE

From time to time requests are published in the News Bulletin for material, information and other items. It is sad to note that in many instances these requests elicit very little response from members. This month there are several requests for information and insect material.

I would like to direct readers' attention particularly to the Questionnaire at the end of the Bulletin. At the first meeting in Newport of the Australian Applied Entomological Research Conference in 1969, and at subsequent meetings of the States Entomology Committee, members expressed interest in establishing a register of people maintaining insect traps throughout Australia. One of the vital functions claimed of such a register would be to aid in the detection of air-borne insect pests and disease vectors. Would all members involved in such activities please complete this questionnaire and send it to Mr. R.G. Lukins at the address given. An identical plea was published in the May, 1970 Bulletin, but only three replies were obtained!

Finally, I would like to direct the attention of all members who are in arrears with their subscriptions to the note from the Executive on page 136.

F.J.D. McDonald

EXECUTIVE REPORT

MEETINGS:

The Executive met on July 27, August 31 and September 28.

MEMBERSHIP:

Ten new members were elected, and at September 28 the Society had 421 members, the highest membership total since the Society was formed. The distribution of members by States was:

Qld.	91	Vic.	55	W.A.	20
N.S.W.	85	S.A.	27	Tas.	17
A.C.T.	67	T.P.N.G. & N.T.	22	Overseas	35
		Addresses unknown	2		

UNFINANCIAL MEMBERS:

We are sorry to report that in spite of repeated reminders 17 members are still unfinancial for both 1970 and 1971; if their subscriptions are not received by December 31, their names must be deleted from the list of members.

A further 25 members are unfinancial for 1971. They will continue to receive the News Bulletin at present, but the Journal Vol. 9 No. 3 was not posted to them; it will be mailed as soon as their subscriptions are received.

JOURNAL:

The volume of manuscripts submitted for publication has amply justified the decision to issue the Journal as a quarterly. Following a careful analysis of publication costs by the Business Manager and Chief Editor, the Executive has decided to increase the size of Vol. 10 Nos. 3 and 4. These two numbers will total approximately 220 pp., bringing the total for Vol. 10 to over 360 pp.

Members' copies of Vol. 10 No. 4, to be published on December 31, will be accompanied by three special inserts: the Society's Constitution, the By-laws, and a list of members and their addresses.

Copies of the list of members will be given to each delegate to the 14 International Congress of Entomology. So that the list may be as accurate as possible when published, would members who change their addresses please notify the Secretary promptly, if possible in advance of their move?

It is pleasing to report that, following lengthy correspondence with the PMG's Department, the Journal has been reclassified for postal purposes from Category B to Category A. The result of this reclassification will be to reduce our postage costs by approximately one half.

INCORPORATION OF THE SOCIETY:

A significant event in our history occurred on July 8 when the Society was granted incorporation under the A.C.T. Associations Incorporation Ordinance. The Registrar of Companies accepted, without amendment, the Definitive Constitution adopted at the 4 AGM in May. As the Australian Entomological Society Inc. we now have a defined legal status, and the interests of both members and office-bearers are formally protected by the terms of the Ordinance.

PROPOSED HISTORY OF THE SOCIETY:

We are pleased to report that Dr. E.N. Marks and Dr. I.M. Mackerras have accepted the Executive's invitation to prepare a brief history of the Society. The present time seems appropriate for such a review. The Society now publishes a quarterly Journal, its membership exceeds four hundred, and it is now an incorporated association. Also, as co-sponsor of the 14 International Congress of Entomology, it is about to make its debut on the international entomological scene. It is hoped that the article will be published in the Journal in time for reprints to be made available to Congress delegates who show an interest in the Society.

QUESTIONNAIRE ON INSECT TRAPS:

Members' attention is drawn to the Editor's Note, and to the cut-out questionnaire slip at the end of this Bulletin. We hope that members who operate traps will respond to this request for information, and thus make possible the preparation of a register of insect traps of interest to many entomologists.

NOTE TO OVERSEAS MEMBERS:

Professor Giles, Regional Councillor (N.S.W.), has suggested that members who are overseas be encouraged to send notes concerning their travels or activities for publication in the News Bulletin. The Editor of the News Bulletin welcomes contributions of general interest from members, and this of course includes those who are resident, or travelling, overseas. If you can help to broaden the coverage and increase the interest of the Bulletin, please remember that its pages are always open to you.

GIFT TO SOCIETY:

In recognition of a small service to him by a member of the Executive, M. Ulysse Auberson, an amateur entomologist of Yverdon, Switzerland, has made a generous donation to the Society of 50 Swiss francs. This sum (over $10) will be added to the fund for student awards.

STUDENT AWARDS - 1972:

Notices of the awards (see News Bulletin Vol. 7 No. 3) were sent to tertiary institutions throughout Australia in early October. The deadline for receipt of papers submitted for awards was set at 30 April 1972.

DEATHS

It is with great regret that we record the deaths in Canberra of two Foundation members of the Society. Dr. M.J. Mackerras died on 7 October 1971, and Miss A.E. May died on 9 October 1971. The Executive extends the Society's deepest sympathy to Dr. I.M. Mackerras and to Mrs. Beryl May.

NEW MEMBERS

Elected 27.7.71

Mr. J.E.C. Heaver, 9 Hentey Street, Portland, Victoria, 3305.

Mr. Heaver is a paymaster, and has an amateur interest in entomology, mainly through colour photography.

Elected 31.8.71

Mrs. D. Clyne, 7 Catalpa Crescent, Turramurra, N.S.W. 2074.

Mrs. Clyne is well known as an author of several books, and various articles in journals and natural history magazines, on entomology and arachnology.

Mr. A.T. Dunn, CSIRO, Division of Entomology, P.O. Box 109,
Canberra City. A.C.T. 2601.

Mr. Dunn is a Technical Assistant in the Woodland Insects section of the Division, and is also particularly interested in resource management.

Miss M.A. Stephenson, 39 Parramore Street, Rosetta,
Tasmania, 7010.

Miss Stephenson is an entomologist with the Tasmanian Department of Agriculture, and has interests in the fields of physiology of insecticide resistance, biological control, and tetranychid mites.

Mr. C.H. Wild, 2/26 Ashley Street, Reservoir, Victoria, 3073.

Mr. Wild is a student completing the third year of a B.Sc. degree, and is interested in the collection and ecological study of insects, especially Coleoptera, Isoptera and some Lepidoptera.

Elected 28.9.71

Mr. M.C.T. Aubrey, Willian Johnson and Associates (N.S.W.)
Pty. Ltd., 250-256 Pacific Highway, Crows Nest, N.S.W. 2065.

Mr. Aubrey is currently involved in the fields of geology and resource management, but was earlier engaged in research on mosquitoes as disease vectors in Malaya and Rhodesia, and on stored products pests in the U.K.

Dr. A.C. Crossley, School of Biological Sciences, University
Sydney, Sydney, N.S.W. 2006.

Dr. Crossley is a Senior Lecturer in Entomology, and his particular research interest is insect physiology and structure.

Mr. A.D. Johnston, Tasmanian Regional Laboratory, CSIRO,
Stowell Avenue, Hobart, Tasmania. 7000.

Mr. Johnston is also a Fellow of the Royal Entomological Society of London, and works as a Technical Assistant with CSIRO Division of Entomology. His particular interests are with Hymenoptera and Lepidoptera.

Mr. T.M. McRae, Department of Entomology, University of
Queensland, St. Lucia, Queensland. 4067.

Mr. McRae is a Laboratory Technologist in the Department of Entomology. From 1960 to 1971 he worked in northern Ghana on the biology of simuliids, with particular reference to their role as vectors of human onchocerciasis. He has published work from his studies on *Simulium damnosum*.

Dr. P. Spradbery, Tasmanian Regional Laboratory, CSIRO,
Stowell Avenue, Hobart, Tasmania. 7000.

Dr. Spradbery is a Senior Research Scientist in the Division of Entomology, and for some years has been studying hymenopterous parasites of siricid woodwasps, mainly at the Division's field station at Silwood Park in Britain. He has published a number of papers on Hymenoptera.

Two other applications for membership have been approved by the Executive, and formal election will follow the receipt of initial subscriptions.

CHANGE OF ADDRESS AND TITLE

(*State of previous residence shown in brackets*)

Dr. L.R.G. Cannon, Department of Parasitology, University of
Queensland, St. Lucia, Queensland. 4067. (Queensland)

Mr. G. Daniels, 3 Wrights Avenue, Berala, N.S.W. 2141. (N.S.W.)

Mr. D.R. Grant-Frost, Manager, Veterinary Division, Bayer
Australia Ltd., P.O. Box 159, Botany, N.S.W. 2019. (Change
of company name).

Mr. A.K. Irvine, Forestry and Timber Bureau, P.O. Box 273,
Atherton, Queensland. 4883. (A.C.T.)

Miss P. Kerridge, 63 Ohinja Road, Alexandra Headlands,
Queensland. 4572. (Queensland)

Dr. J.L. Madden, Faculty of Agricultural Sciences, University
of Tasmania, G.P.O. Box 252C, Hobart, Tasmania. 7001. (Tasmania).

Mr. D.L. Porter, Flat 4, 2 Lennon Street, West Parkville,
Victoria. 3052. (Victoria)

Dr. E.F. Riek, Division of Entomology, CSIRO, P.O. Box 109,
Canberra City. A.C.T. 2601. (Change of title).

Mr. F.G. Swindley, 34 Mitre Street, St. Lucia, Queensland. 4067.
(Queensland)

Mrs. J. Tan Choo Haw, 34 Greenleaf Drive, Singapore 10.
(Queensland)

Dr. N.B. Tindale, 2314 Harvard Street, Palo Alto,
California, 94306. U.S.A. (S.A.)

Mr. R.G. Winks, Ashurst Lodge, Imperial College Field
Station, Ascot, Berks., England. (Queensland)

FINANCIAL STATEMENTS FOR 1970/71

As the 5 AGM will not be held until August 1972, the Income and Expenditure Accounts, and an audited Balance Sheet, for 1970/71 are published in this News Bulletin.

The Executive expects that the accounts for 1971/72 will be audited in time for presentation to the 5 AGM in Canberra.

R.T.G. Greaves
TREASURER

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

PUBLICATIONS INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30TH JUNE 1971

1970			1971	1970			1971
	Opening Stocks			3,742	Subscriptions Received		4,484
293	Handbooks - 668 ¢ 25¢	167		1,675	Sales		2,234
	Miscellaneous Publications			320	Advertising		-
257	- 538 @ 48¢	258		115	Interest Received		62
1,702	Journals - 1,550 @ $1.95	3,022	3,447		Closing Stocks		
4,969	Printing Costs		4,601	167	Handbooks - 513 @ 25¢	128	
122	Stationery and Postages		366		Miscellaneous Publications		
2,010	Surplus for Year		3,937	258	- 533 @ 48¢	256	
				3,022	Journals - 2,660 @ $1.95	5,187	5,571
$9,299			$12,351	$9,299			$12,351

GENERAL INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30TH JUNE 1971

1970		1971	1970		1971
50	Audit Fees	50	1,344	Subscriptions Received	1,754
159	Stationery and Postages	191	37	Sundry Income	-
76	Travelling Expenses	-	32	Interest Received	12
746	News Bulletin	723			
-	Student Prize - 4 AGM	20			
-	Filing Fees	11			
-	Sundry Expenses	13			
3	Depreciation	3			
379	Surplus for Year	755			
$1,413		$1,766	$1,413		$1,766

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

BALANCE SHEET AS AT 30TH JUNE 1971

1970				1971
		Accumulated Funds		
9,035		Balance 1st July, 1971		11,424
		Add: Surplus for year		
	2,010	Publication A/c	3,937	
2,389	379	General A/c	755	4,692
11,424				16,116
		Current Liabilities		
109		Subscriptions in Advance	92	
50		Sundry Creditors	1,466	1,558
11,583				$17,674

1970				1971
	Fixed Assets			
	Furniture and Equipment - At Cost			
29	Less: Depreciation			26
	Current Assets			
	Cash at Bank			
	Reserve A/c	2,500		
	News Bulletin A/c	386		
1,301	General A/c	1,554		
4,753	Publications A/c	5,448		
576	International Congress A/c	979		
	Special Purpose and Sustaining Associates A/c	230	11,097	
31	Cash on Hand		2	
	Stock on Hand - At Cost			
3,501	Publications		5,571	
1,245	Subscriptions in Arrears		930	
147	Sundry Debtors		48	17,648
$11,583				$17,674

Auditors Report

We have examined the books and records of the Australian Entomological Society for the year ended 30th June, 1971 and report that in our opinion the attached Balance Sheet and Income and Expenditure Accounts are properly drawn up so as to give a true and fair view of the state of the Society's affairs as at 30th une, 1970 and the results of its operations for the year then ended. Stock on Hand has been included at the certified valuation of the Directors.

Canberra 11th October, 1971.

F.W. Duesbury & Co.
CHARTERED ACCOUNTANTS

14 INTERNATIONAL CONGRESS OF ENTOMOLOGY

So far, we have received less than fifty enrolments for the Congress. This slow rate is undoubtedly mainly due to the fact that many members are not yet assured of necessary financial support. The enrolments should come in at a greater rate soon. I would again ask Australian entomologists to enrol early; this will help the Organizing Committee.

Most of the Symposia are now fairly well advanced in organization and we have had a small number of offers of papers to Sections. By the next issue of the Bulletin we should be in a position to give some idea of where the major interests lie and which Sections and Symposia will be getting most support.

Courtenay N. Smithers
SECRETARY
14 INTERNATIONAL CONGRESS OF ENTOMOLOGY

NEWS FROM AFFILIATED SOCIETIES

ENTOMOLOGICAL SOCIETY OF QUEENSLAND

Activities since the last report include the following:

10 May, 1971. - Main business was an address by Dr. G.H.S. Hooper of the Entomology Department, University of Queensland, entitled "Entomological activities of the International Atomic Energy Agency". Dr. Hooper recently spent two years working at the Agency headquarters in Vienna, Austria.

21-23 May, 1971. - Many country members as well as ordinary members of the Society were among those present at the fourth AGM of the Australian Entomological Society held at Southport. This was the largest meeting of the Australian Entomological Society yet held, and our Society can be very pleased at its part in staging the meeting. The organizing committee was made up of members of the Entomological Society of Queensland.

15 June, 1971. - Main business was an address by Dr. B.N. Smallman, Head of the Department of Biology at Queens University, Kingston, Ontario, entitled "Characteristics of the cholinergic system in the cattle tick". Dr. Smallman spent some months at the CSIRO Long Pocket Laboratories.

12 July, 1971. - Notes and exhibits evening which, once again, proved the popularity of this form of meeting. This is the first time for many years that two such meetings have been scheduled in a year. Contributions ranged widely, were all most interesting and informative, and were very well presented.

13 September, 1971. - Main business was an address by Dr. B.R. Champ of the CSIRO Division of Entomology, Long Pocket Laboratories, on "The Insecticide Resistance Problem in Storage Entomology". During the absence overseas of our President, Dr. M. Bengston, meetings have been chaired by the Vice-president, Prof. D.S. Kettle.

VISITORS TO FAR NORTH QUEENSLAND

15 August: Chas Hill of Warragul, Victoria called on me. He was on a northern tour as far as Cooktown. He was having little success with his Coleoptera and Lepidoptera collecting.

22 August: David Hancock, University of Queensland, called on me. He was spending part of his vacation in the north, mainly on general collecting.

31 August: Dr. Syoziro Asahina of Tokyo, and President of the Entomological Society of Japan, called on me to have a look at my collection. He was returning home after attending the Pacific Science Congress at Canberra. His principal interest is Odonata.

6-9 September: Dr. David Rosen of Israel was in the area, also after attending the Canberra Congress. I took him on several trips to help him collect scale insects and their parasites.

23 September: Dade Thornton of Miami, Florida, called on me to see my collection. He is president of the Florida Audubon Society and Collaborator in Entomology with the Florida State Museum. His principal interests were the coleopterous families, Cerambycidae and Tenebrionidae.

J.G. Brooks

DEPARTMENTAL NEWS

CSIRO DIVISION OF ENTOMOLOGY

Dr. G.G. Foster has joined the Blowfly Genetics section to work on the genetic control of the sheep blowfly. He comes from the University of British Columbia. Working in conjunction with genetic control will be ecologist Dr. R.L. Kitching, an Oxford graduate who is at present a post-doctoral fellow at the Simon Fraser University of Vancouver.

Miss Rhondda Jones from the University of Western Australia has joined Dr. R.D. Hughes to work on the ecology of the bushfly.

Mr. A.A. Kirk has transferred from Silwood Park in England to Hobart before joining Dr. Bornemissza in Pretoria, to work on the Division's Dung Beetle Project.

Dr. J.P. Spradbery has also transferred from Silwood Park to Hobart.

Dr. R.M. McQuilkin has joined Bob Simpson in the Sirex unit at Hobart. A graduate of Melbourne University, he has worked in both London and California as a post-doctoral fellow.

Miss Marion Schurmann, a graduate of Monash University, has joined the Grain Storage Investigations as an insect physiologist.

DEPARTMENT OF PRIMARY INDUSTRIES, QUEENSLAND

Dr. W.A. McDougall retired on June 30, after 45 years of active association with entomology in the Queensland Department, including 22 years as the Senior Entomologist in the State's Public Service. Before his transfer to Brisbane in 1949 he had worked extensively on canefield pests and was awarded an M.Sc. degree for his research on wire worms. In 1949 Dr. McDougall received one of the first D.Sc. degrees awarded by Queensland University for his studies on rodent ecology and has maintained his position as an authority in this field.

Dr. A.R. Brimblecombe, formerly Deputy Government Entomologist, has been appointed Director of the Entomology Branch of the Department of Primary Industries, following the retirement of Dr. W.A. McDougall.

The Department has announced the creation of a new Fauna Conservation Branch and has promoted Dr. Graham Saunders, a well known Queensland entomologist, to the position of Director.

UNIVERSITY OF WESTERN AUSTRALIA, DEPARTMENT OF ZOOLOGY

A series of studies of Diptera is being undertaken by Hugh Paterson, Don Edward and post graduate students. The level and nature of reproductive isolation between members of the *Culex pipiens* complex is the concern of Hugh Paterson. Rosemary Irving-Bell is probing the nature of the cytoplasmic incompatibility observed in *Culex molestus* and the genetics of autogeny. Simon Miles is looking at aspects of the population genetics of this complex from a biochemical viewpoint. His work includes a study of the population genetics of resistance to organophosphate insecticides.

Chris Green, newly arrived from Rhodesia, is examining the cytogenetics of Western Australian *Anopheles*.

The ecology of the Simuliidae of the Darling Range forms the field of interest of Jane Prince. Her interests in this subject stemmed from a study of these insects by a recent Honours Class which surveyed the Simuliidae near Perth and produced very worthwhile cytological maps of the salivary gland chromosomes of *Cnephia tonnoiri* and *Simulium ornatipes*, besides increasing our knowledge considerably of the geographical and ecological distribution of the local species.

Nick Monzu and Ken Wallace have undertaken ecological studies of some of the less well studied blowflies of Western Australia.

Don Edward is concerned with the taxonomy and biology of the Chironomidae of Western Australia. Rhondda Jones has just completed a study of the ecology of five species of Chironomidae (four Orthocladiinae and one Chironominae) and one of Ceratopogonidae (*Dasyhelea* sp.), which occupy temporary pools on granite outcrops and whose larvae persist in the dry mud in these pools throughout the summer drought. Bob Humphries is examining aspects of character displacement in one of these orthoclad species as part of a fourth year study.

The Honours students this year have looked at the overall biology of *Aedes ashworthi*, a mosquito species which utilizes saltwater pools at the edge of the sea as a breeding place.

CSIRO DIVISION OF ENTOMOLOGY, LONG POCKET LABORATORIES, BRISBANE

Dr. R.H. Wharton, Officer-in-Charge of the Division at Long Pocket Laboratories, has returned after four months overseas studying the latest research developments and control methods used in South Africa, South America and the U.S.A., in the field of veterinary entomology.

Visitors to the laboratory recently have included Dr. A.J.E. Orian of Mauritius, whose main interest is Hemiptera, and Dr. David Rosen of the Hebrew University, Tel-Aviv, an entomologist concerned with biological control, particularly of scale insects.

NEWS FROM STATES

SOUTH AUSTRALIA

Mr. Malcolm Campbell has had his thesis for a Master of Agricultural Science degree accepted by the University of Adelaide. His thesis, "Making use of a parasite to control red-scale in South Australia", describes methods of disseminating *Aphytis melinus* DeBach, and its establishment on populations of *Aonidiella aurantii*.

Malcolm Campbell, formally an entomologist with S.A. Department of Agriculture stationed at Loxton, has taken a research assistant's position at the University of Queensland which will enable him to complete a Ph.D. He is at present involved in the laboratory culturing of aquatic insects that may act as vectors for "blue-tongue".

Mr. Noel L. Richardson, Senior Regional Research Officer at Loxton has completed his Master's Degree. His thesis describes the ecological relationships between, and methods for the control of, all pests occurring in peach orchards in South Australia. The methods are more effective and cheaper to implement than alternatives in current use and do not interfere with existing practices of orchard management.

Oriental fruit moth (*Cydia molesta*) is the most important pest in the peach orchard ecosystem. Its presence not only causes direct losses, but the insecticides applied to the trees for its control induce an economic problem with the phytophagous mite *Tetranychus urticae*.

A new indigenous species of predator was discovered to be associated with *T. urticae*. By re-arranging control methods for the other pest species *T. urticae* came under natural control and ceased to be a pest.

P.G. Allen

WESTERN AUSTRALIA

Rapeseed insects

Over the past three years the acreage sown to rapeseed in Western Australia has increased over 150 times to 70,000 acres. The greatest increase has been in the Esperance area on the south coast.

Unfortunately the crop is particularly attractive to a variety of pests, and farmers who have been predominantly cereal growers have had difficulties adjusting to the more demanding requirements of insect control of rapeseed.

This winter, insect damage was an important problem during crop establishment. A small acreage required replanting following damage primarily by vegetable weevils (*Listroderes costirostris* (Schonh.)). Where weevil-infested pastures have been ploughed and left fallow for too short a time before sowing, severe damage to the emerging crop can result. The newly introduced "Spray-seed" technique, in which a weedicide replaces the plough, enables a farmer to seed on old pasture land with a minimum of delay. But the normal cultural control of pests by starvation is eliminated.

Outbreaks of common cutworm (*Agrotis* sp.) and red legged earth mite (*Halotydeus destructor* Tuck) required treatment on some crops.

In the Esperance area aphid populations increased early on old rape plants and then became particularly severe on the young crops. However, farmers' requests for advice ceased rather abruptly at the beginning of a prolonged period of cold wet weather late in July. In the districts east of Perth, a considerable degree of biological control of aphids was exercised by an undetermined wasp species during crop flowering in August and September.

S.J. Curry

PAPUA NEW GUINEA

Appointments

Mr. P. Bailey has joined the Department of Agriculture, Stock and Fisheries as Entomologist at the Lowlands Experiment Station, Keravat, East New Britain.

Dr. B. Cheary has commenced duty as Ecologist at the Wau Ecology Institute (formerly Bishop Museum New Guinea Field Station).

Mr. E.S.C. Smith has joined the team of entomologists of the Department of Agriculture, Stock and Fisheries at Popondetta.

Mrs. Sandra Smith has been appointed as an Entomologist in the Malaria Service Section of the Department of Public Health, Konedobu.

Travel

Dr. S. Asahina of the National Institute of Health, Tokyo, and President of the Entomological Society of Japan, paid a short visit to collect Odonata in the Wau and Port Moresby areas on his way home from the Pacific Science Congress in Canberra.

Dr. J.L. Gressitt of the Bernice P. Bishop Museum, Hawaii, visited the Wau Ecology Institute both before and after the Pacific Science Congress.

Dr. C.S. Li, Senior Entomologist in the Department of Agriculture, Stock and Fisheries at Bubia, near Lae, presented a paper on rice stem borers at the Pacific Science Congress in Canberra.

Mr. H. Robinson of Suva, Fiji, took the opportunity during a visit to Port Moresby to look at the collection of moths in the Department of Agriculture, Stock and Fisheries. He was also able to do limited collecting at Brown River and Sogeri.

Dr. D. Rosen of the Hebrew University, Israel, spent a few days at Port Moresby, Lae and Wau collecting scale insects for rearing of parasites. He was returning home from the Pacific Science Congress.

Dr. J. Smart of Cambridge, England, stopped over in Port Moresby at the start of an extended collecting trip seeking simuliids in the New Hebrides, New Caledonia and Solomons. He plans to return to New Guinea near the end of the year to collect for up to three months.

Mr. R. Straatman of Sogeri, P.N.G., spent six weeks visiting museums and private collections in the U.K., France, Belgium, Holland, Germany and Switzerland, collecting data on New Guinea Lepidoptera and Coleoptera.

Mr. L. Weatherill of Grahamstown, South Africa, spent several weeks collecting ants in the Port Moresby, Wau and Lae areas.

T.L. Fenner

TASMANIA

Two meetings of Tasmanian members have been held, on 5 and 30 August. At the first, Keith Taylor gave a brief report on the AGM and some of the interesting papers presented at the scientific sessions associated with the meeting.

Dr. J.P. Spradbery, who was previously at the Sirex Biological Control Unit at Silwood Park, and who collected parasites of siricids in many European countries, has just arrived in Hobart after collecting parasites in Japan for about three months. He showed a film which he made in Japan, depicting some of his work there.

The second meeting was arranged to enable members to meet Dr. V.P. Rao, Officer-in-Charge of the Indian Station of the Commonwealth Institute of Biological Control at Bangalore, India. Dr. Rao gave an illustrated talk on the past and present work at Bangalore. Those present (about 11 members and several visitors) found the talk very interesting and informative. At this meeting the opportunity was taken to show the film "The Termite Colony" produced by the CSIRO Film Unit. There was considerable interest in this film and further meetings are planned so that other films of entomological interest can be shown.

Membership in Tasmania has increased from 14 to 17 since the last Bulletin was circulated, and several others are known to be interested in joining the Society if interesting meetings are held at reasonably frequent intervals.

K.L. Taylor

THE DORRIGO PLATEAU IS NOT DEAD!

Rumour has it that from an entomological standpoint, Dorrigo is dead. Far from it. Dorrigo, about 45 miles from Coff's Harbour on the eastern edge of the New England Tableland, provides both a wide range of ecological types and a variety of insectan fauna. Some of the best areas for collecting are within easy access of roads, and for the more intrepid, about thirty minutes of 'scrub-bashing' will land the collector in some of the best rainforest in the state.

Vegetation types grade from tall woodland through to sub-tropical rainforest. In addition, there are many small pockets of mixed forest which, isolated by land clearing, provide excellent sites for light trapping; these alone are well worth investigating. Some localities to consider are Bo Bo Creek (temperate rainforest) Cloud's Creek (sub-tropical rainforest, wet and dry sclerophyll), Deervale (wet sclerophyll), Moonpar (submontane rainforest, and wet sclerophyll), and the Wild Cattle Creek-Cascade area (submontane and dry rainforest, wet and dry sclerophyll and tall woodland - also some stands of hoop-pine, *Araucaria cunninghamii*, along the way. All of these are within a fifteen-mile radius of Dorrigo township and are accessible by mostly reasonable roads.

Daytime collecting by sweep-net, litter sampling, opening rotting logs and shaking foliage is often rewarding, but can be arduous; also, wholesale splitting of logs can be injurious to habitats and should be discouraged. The best possibilities are offered by night collecting in the form of light-trapping and scanning tree-trunks and foliage with the aid of a good torch or headlamp. The months from October to March are probably the best for collecting here, and light-trapping on a warm, misty, moonless night should yield most of the insects typical of the forest types mentioned. As well, some of the more unusual members of micro- and macro-lepidopteran (Geometridae, Hepialidae), coleopteran (*Dihammus*, *Batocera* - Cerambycidae, Dynastidae, Curculionidae, notably *Eurhamphus fasciculatus*), hymenopteran and dipteran genera are not difficult to collect in a good season.

A visit to Dorrigo National Park is also well worth while. Although collecting is restricted, graded walking tracks permit close examination of the fauna and flora of a vegetation type which is far too rapidly diminishing in this state. The park's ranger, Neville Fenton, will be pleased to answer inquiries on other areas suitable for collecting and conditions for obtaining permits; the N.S.W. Forestry Commission can also be contacted in the latter respect.

In short, the Dorrigo area has much to offer for both the serious collector and those only casually interested. It is the type locality for many insect species (ref. Lee and Turner) and these can still be collected. If you are in the area, localities such as Gibraltar Range, New England National Park - Ebor region, Styx River and the Carrai Plateau-Kempsey area are spots which should not be overlooked. So, if you would like somewhere different to go on your next trip, think about it.

R.H. Hardie,
Department of Zoology,
University of New England.

WHEN WAS *CYCLOCEPHALA SIGNATICOLLIS* INTRODUCED TO AUSTRALIA?

In 1956 (*Proc. Linn. Soc. N.S.W.* 81(3): 217-221) I recorded the presence in Australia of the Argentinian beetle *Cyclocephala signaticollis* Burm. (Scarabaeidae: Dynastinae). In November 1947 Mr. C.E. Chadwick collected larvae at Bardwell Park, a northern Sydney suburb, and reared them to adults which were identified by Dr. E.B. Britton. In the 1950's and 1960's, the species was frequently collected at lights, often in very large numbers, in many other northern suburbs. In 1962 the species was found at Gosford, about 32 miles NNE of Sydney. These records suggested that the initial introduction of *C. signaticollis* may have occurred not long before Mr. Chadwick's first collection of the species in 1947. There is now evidence to suggest that the insect was present in the Sydney area at least 11 years earlier.

I recently received from Mr. R.L. Dunn, of Sedona, Arizona, U.S.A., a parcel of Australian scarabs for identification. The material had been obtained by him from Mr. E. Skreen, an amateur lepidopterist of Bondi, N.S.W. The parcel included a single specimen of *C. signaticollis* labelled "Sydney, January 8, 1936". Mr. Skreen has advised me that the specimen came from a collection made by the late Dr. Miller, a dentist and amateur entomologist of Sydney, and which he acquired about 1960. There seems little reason to doubt the correctness of the date of collection of this specimen, for the dates of all the associated Coleoptera in the collection fell between 1919 and 1940.

I should be interested to hear from any member who has other specimens of *C. signaticollis* taken before 1947. The insect, which ranges in length from 12 to 15 mm, can be distinguished from any indigenous dynastine in that it bears symmetrical patterns of dark brown markings on the general yellowish-brown ground colour of the pronotum and elytra.

P.B. Carne,
Division of Entomology,
CSIRO, Canberra.

INTEGRATED CONTROL IN WASHINGTON STATE

The following is a summary of an address given by Dr. S.C. Hoyt to the Entomology Branch and District Fruit Officers of the New South Wales Department of Agriculture (see note of meeting by Mr. A.D. Clift in previous issue).

Codling moth and McDaniel mite (Tetranychidae) are the two most important pests in Washington's apple orchards. Prior to integrated control, codling moth was controlled by a standard 3-weekly schedule of azinphos sprays. This caused a serious mite problem and, despite the use of very large amounts of acaricides, the mites often became very abundant towards the end of the growing season, causing defoliation and webbing of the fruit. This resulted in deterioration of the size and colour of the fruit.

The programme of integrated control is based on the idea that the codling moth could be controlled in many cases by the application of only two sprays of azinphos. Two well-timed sprays are applied early in the season to knock out the last generation of moths which, because of the cold winters, tend to emerge over a relatively short period of 6 weeks. If successful, no further sprays for codling moth are necessary for the rest of the growing season. Under these circumstances, Hoyt maintains that the McDaniel mite is controlled at economic levels by the predatory mite *Typhlodromus occidentalis* (Phytoseiidae), a species which also feeds on Eriophyiidae. According to Hoyt, their strain of *T. occidentalis* is now sufficiently resistant to azinphos to survive the two codling moth sprays, and subsequently it increases fast enough to control the McDaniel mite by the end of the season. Although some leaf browning may occur, there is little or no deterioration of fruit quality.

The idea of using integrated control caught on during a year of exceptionally bad frosts which resulted in poor crops of apples in most orchards. Such crops did not justify expensive control measures, and the growers therefore sought the cheapest alternative method - integrated control. It succeeded beyond all expectations, and over 90% of all orchardists in the area now use the method.

REQUESTS FOR LIVE INSECT MATERIAL

CICADAS

Dr. David Young is recording and analysing the physiological mechanisms of cicada songs. He would be most grateful if any readers could either supply him with reliable information of where to find certain species in abundance or to send him live material preferably by air freight.

He is particularly interested in the following species:

Cyclochila australasiae and *Thopha saccata*, commonly found in the Sydney area and the South Coast, and

Cystosoma saundersi, found in the warmer tropical areas of Australia. Any other large species of cicadas would also be welcome.

Would members send information or material to the following address:

Dr. D. Young,
Research School of Biological Sciences,
P.O. Box 475,
CANBERRA CITY. A.C.T. 2601.

COCKROACHES

Professors Tony O'Farrell and Alex Stock urgently require for their experimental work on regeneration and development all stages of *Supella supellectilium* (Blattodea:Blattellidae). They require live material in sufficient numbers to enable them to establish a large mass culture. This cockroach occurs more commonly in warmer climates and their appeal is to our more northern members in Queensland. They are willing to help donors in any way possible either by supplying or exchanging other material, etc.

Please send material or address enquiries directly to:

Professor A.F. O'Farrell,
Department of Zoology,
University of New England,
ARMIDALE. N.S.W. 2351.

BOOK REVIEWS

Microbial control of insects and mites.
Edited by H.D. Burges and N.W. Hussey. Academic
Press, London and New York, 1971. $11.50.

The Editors preface this book by stating that the study of arthropod diseases "has expanded rapidly in recent years, revealing their potential for control. This book is intended to assess the current knowledge, achievements and future prospects for this mode of control".

To attain this goal, 43 authors have contributed to the 33 chapters and 7 appendices of this 861 page book. After the Introduction and a chapter on identification of pathogens, a chapter is devoted to the potential for control of each of the following: bacteria, viruses, fungi, protozoa, rickettsiae and nematodes. Then follows a chapter on bacterial and fungal toxins and four chapters dealing with *Bacillus thuringiensis*. Other chapters are concerned with microbial control of certain groups of arthropods, e.g., mites and ticks, termites, scale insects; the safety of pest-insect pathogens for man and beneficial insects; the propagation, formulation and standardization of pathogens; and a final chapter on past achievements and future prospects.

The book is well produced and has extensive lists of references at the end of each chapter. The appearance of the book in this period of expanding research and interest in the use of micro-organisms for control of arthropods is timely. It should be of value to both specialists in particular fields and to entomologists in general.

G.H.S. Hooper

The cellular defence reactions of insects.
George Salt. Cambridge Monographs in Experimental
Biology No. 16. C.U.P. Cambridge, 1970. £2.50.

This is another specialised work in the very excellent Cambridge monograph series.

The book is a mine of information on the very complex subject of defence mechanisms in insects. Dr. Salt has chosen to deal particularly with phagocytosis and encapsulation, two important defence mechanisms in insects. The subject is very ably dealt with in a lucid and precise manner and gives non-specialists in the field a very clear idea of the mechanisms and how they operate. It is a very useful book for students taking courses in advanced insect physiology. Chapter two deals with phagocytosis and chapter three with encapsulation. Chapter four is concerned with nodule formation which is a process involving both phagocytosis and encapsulation. Chapter five deals with cellular reactions against inert bodies while chapter six is concerned with the reactions of the blood cells to foreign bodies. This chapter, as Dr. Salt notes, raises a number of unsolved problems; hopefully future students will be stimulated to tackle them. The penultimate chapter discusses cellular reactions and the immunity provided to insects and finally a very interesting comparison of insect and vertebrate defence reactions is made in chapter 8. There is a comprehensive reference list and a very useful list of organisms mentioned in the text.

The price of this book is modest and well within the scope of most readers of insect physiology texts including students.

F.J.D. McDonald

HAVE YOU PAID YOUR SUBSCRIPTION?

Or are you one of the seventy members to whom the Treasurer recently sent second reminders? If your subscription remains unpaid, you will not have received your copy of the Journal Vol. 10 No. 3.

Steadily increasing costs require the Executive to practise every economy if our Society's subscription is to be held at its present level.

Sending out repeated reminders of overdue subscriptions, and mailing separate copies of publications (which do not benefit from the bulk postage concession), consumes money which could be put to much better use. Don't penalize your more punctual colleagues!

We appeal most strongly to all members to pay their subscriptions early in each year.

The Executive

At this point, in the copy scanned,
a page had been cut out.

This was a survey form distributed
in the News Bulletin as mentioned
in the Editor's Note on P.114 of this issue

OCCASIONAL PUBLICATIONS

OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

HANDBOOK NO. 1

"Methods of Collection and Preservation of Insects"

by

K.R. Norris

CSIRO Division of Entomology

This Handbook is indispensable for all, whether amateur, professional or student, who collect insects.

40 pp. Price: $A1.00

MISCELLANEOUS PUBLICATION NO. 1

"The Entomology of Citrus in New South Wales"
(W.W. Froggatt Memorial Lecture)

by

P.C. Hely

N.S.W. Department of Agriculture.

20 pp. Price: $A1.00